



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,734	06/18/2001	A. Scott Hollums	1875.0700002	8770
26111	7590	06/27/2006	EXAMINER	
STERNE, KESSLER, GOLDSTEIN & FOX PLLC 1100 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			PHAN, MAN U	
			ART UNIT	PAPER NUMBER
			2616	

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/881,734

Applicant(s)

HOLLUMS ET AL.

Examiner

Man Phan

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-13 is/are rejected.
- 7) ☒ Claim(s) 6, 14 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***DETAILED ACTION***

1. This communication is in response to applicant's 09/26/2005 response in the application of Hollums et al. for a "System, method and computer program product for scheduling burst profile changes based on minislot count" filed 06/18/2000. This application claims Priority from Provisional Application 60261273 filed 01/12/2001. The amendment and response has been entered and made of record. Claims 1, 5 have been amended. Claims 1-15 are pending in the application.

***Claim Rejections - 35 USC ' 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was

Art Unit: 2616

made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-5, 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bisceglia et al. (US#6,275,498) in view of Sambamurthy et al. (US#6,108,713).

With respect to claims 1-4, Bisceglia et al. (US#6,275,498) in view of Sambamurthy et al. (US#6,108,713) disclose a novel system and method for changing upstream physical layer parameters in a head-end physical layer device of a communication system, according to the essential features of the claims. Bisceglia et al. discloses in Fig. 3 a block diagram illustrated a system for changing one or more PHY communication parameters (44) includes a controller being operative to produce bus selection output signals and the control logic being responsive to the bus selection output signals to selectively couple one of the plurality of serial bidirectional control buses to the second bus interface to permit message communication between the controller and a specified one of the at least one PHY coupled to the selected serial bidirectional control bus. The controller being operative to store information corresponding to at least a portion of a PHY management message within a transmit descriptor associated with the serial peripheral interface and to forward a command to the serial peripheral interface to initiate transmission of the at least a portion of the PHY management message contained in the transmit descriptor to a selected PHY coupled to one of said control buses specified by the bus selection output signals via the second bus interface, wherein the transmission over the second bus interface proceeds independently of, and concurrently with, the control program execution within the controller (Col. 11, lines 29 plus). Note that a serial peripheral interface (SPI) is

employed to control the interface between MAC layer components and PHY layer components for a mutual data transmission. Such an interface employs handshaking as a way of transmitting and receiving signals such as an information request, a transmission check, a reception check, and the like to perform the mutual data transmission, and it's well known in the art.

Bisceglia et al. does not explicitly disclose the step of sending the parameters to the physical layer device at a predetermined time. However, the above mentioned claimed limitations are taught by Sambamurthy (US#6,108,713). In particular, Sambamurth teaches a monitoring circuit (see Fig. 2, a combined system of micro RISC stream processor 114 and Super MAC management 117) sending a message (see Fig. 2, an instruction/message is sent to/from the combined management system) to the transmitter (see Fig. 2, Tx Super MAC controller 118) to change a physical layer parameter responsive to the collected statistics (see col. 10, lines 42 to col. 11, lines 52; Also see col. 12, lines 32-42). Note that the combined management system sends the management/control command/instruction to the transmitter to change/modify the physical layer parameter/limitation according to the stored statistics) and to the receiver (see Fig. 2, Rx Super MAC Controller 120) to process data signals based on the changed parameter (see col. 10, lines 42 to col. 11, lines 52; Also, col. 12, lines 32-42). Note that the combined management system sends the management/control command/instruction to the receiver to process the packet/data/signal according to the changed/modified the physical layer parameter/limitation (see col. 12 lines 56 to col. 13, lines 37; Also see Fig. 3).

With respect to claims 5, 7, the combined system of Bisceglia and Sambamurthy disclose the monitoring circuit send s a message to change the physical layer parameter as

Art Unit: 2616

described in the claims above, Sambamurthy et al. further teach in Fig. 2 a architectural diagram illustrated a flow based Media Access Controller (MAC) 150 for high speed transmission, in which a FIFO Tx 106 acts as a buffer (e.g., RAM memory) for holding data that is being transmitted from the upper LLC layer through network data system bus 101. The FIFO Tx 106 is preferably capable of storing up to ten or more packets of data. Once a suitable number of packets are buffered in FIFO Tx 106, a network flow managing FIFO Tx controller 110 is implemented to manage the high speed flow of packets from FIFO Tx 106 into a micro RISC stream processor 114a. At a higher level, network flow managing FIFO Tx controller 110 may be responsible for prioritizing the different types of data being transferred across a network, such as audio, video, graphics, etc. In this manner, flow based MAC 150 is capable of having multiple simultaneous streams of data flowing through FIFO Tx 106 at one time (Col. 7, lines 38 plus, and Col. 38, line 37 plus).

Regarding claims 8-13, they are method claims corresponding to the system claims 1-5, 7 above. Therefore, claims 8-13 are analyzed and rejected as previously discussed with respect to claims 1-5, 7.

One skilled in the art would have recognized the need for effectively and efficiently changing one or more PHY parameters as configured in a PHY device, and would have applied Sambamurthy's teaching of a mechanism of sending a message/instruction to the receiver to process the packet/data/signal into Bisceglia's novel use of a PHY signal control device. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Sambamurthy's MAC architectures and network management systems into Bisceglia's extended PHY addressing with the motivation being to provide a

Art Unit: 2616

method and system for changing PHY parameters in a PHY device of a communication system.

The motivation being that by instructing the receiver in order to synchronize with the transmitter, it will reduce the error or failures due to mismatch processing of data between transmit and receive signals/data.

***Allowable Subject Matter***

5. Claims 6 and 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for the indication of allowable subject matter: The closest prior art of record fails to disclose or suggest wherein the control registers further store a channel identifier, which corresponds to a communications channel to which the parameters pertain, and further comprising the step of: (f) receiving periodic updates of the current time, performed before step (e).

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Bisceglia et al. (US#6,275,498) is cited to show extended PHY addressing.

The Eng (US#5,963,557) is cited to show high capacity reservation multiple access network with multiple shared unidirectional paths.

The Millet et al. (US#7,039,939) is cited to show method and apparatus for creating

virtual upstream channels for enhanced lookahead channel parameter testing.

The Safadi (US#5,696,765) is cited to show configurable hybrid MAC for cable metropolitan area networks.

The Hofmann et al. (US#6,728,234) is cited to show method and apparatus for using a low clock frequency to maintain a time reference governed by a high clock frequency.

The Friedrich et al. (US#5,577,206) is cited to show system for physical layer controllers for performing automatic hardware based scrubbing of input and output dirty flags for updating system configuration changes.

The Quigley et al. (US#6,650,624) is cited to show the cable modem apparatus/method

The Quigley et al. (US#6,961,314) is cited to show the burst receiver for cable modem.

The Quigley et al. (US#6,965,616) is cited to show the network data transmission synchronization system and method.

The Quigley et al. (US#2001/0055319) is cited to show the robust technique for optimal upstream communication between cable modem subscribers and a headend.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (571) 272-3149. The examiner can normally be reached on Mon - Fri from 6:00 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3988. Any inquiry of



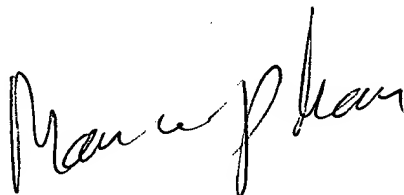
Art Unit: 2616

a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at toll free 1-866-217-9197.

Mphan

June 22, 2006

A handwritten signature in cursive script, appearing to read 'Man U. Phan', written in black ink.

**MAN U. PHAN  
PRIMARY EXAMINER**